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ABSTRACT

Addressed to allied health educators who are currently developing curriculum, the document summarizes the agenda, contents, conclusions, and implications of a workshop attempt to develop career paths in the area of allied health occupations and professions. Four problems in developing performance-based curricula are attacked: too much data, too little systematization, too little student participation, and too little time. Examples of each of the problems and issues involved are presented. A five step solution is proposed in illustrated applications: (1) develop objectives in writing only for essential material, (2) write objectives in a format that is subject to continual revision and updating, (3) assume some students can contribute to objective clarity, (4) let student participation grow out of staff efforts, and (5) develop the curriculum slowly to balance conceptualization and operational possibilities. A one-page coded training matrix is offered, summing up workshop applications. (Author/MW)

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TITLE

INTRODUCTORY GUIDELINES ON HOW TO DEVELOP learning objectives that are CLEAR and INTERESTING COURSE OUTCOMES AND HOW TO DEVELOP performance based curricula that are RELEVANT and COST EFFECTIVE PROFESSIONAL COMPETENCIES

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DATE

July 30, 1974

This document will help educators switch from teacher-centered objectives and curricula to learner-centered objectives and curricula.

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INTRODUCTORY GUIDELINES

This document entitled INTRODUCTORY GUIDELINES ON HOW TO DEVELOP LEARNING OBJECTIVES THAT ARE CLEAR AND INTERESTING COURSE OUTCOMES AND HOW TO DEVELOP PERFORMANCE-BASED CURRICULA THAT ARE RELEVANT AND COST EFFECTIVE PROFESSIONAL COMPETENCIES is another career path training module intended to summarize in a few pages the agenda, the contents, the conclusions, and the implications of a workshop attempt to develop career ladders and career lattices.

A career path includes both the upward mobility of a career ladder and the lateral transfer possibilities of a career lattice. Viewed from this perspective, a career path is an organized and sequential grouping of learning objectives into a performance-based curriculum. This means that each objective successfully mastered by a learner is either another step upward on a career ladder or another lateral possibility giving the worker a greater choice of an interesting and meaningful occupational job.

For reasons of simplicity, the occupational examples covered in this document are from the area of allied health occupations and professions. This concentration on one specific occupational cluster is meant to simplify the document rather than to exclude application in other career path areas.

The problem attacked in this document is the fact that the typical planner of a career path training module starts off with four significant difficulties:

1. There is too much data
2. There is too little systematization
3. There is too little student participation
4. There is too little time allowed to cover all the essential material required for certification or licensing

As is obvious from the above four areas of high priority, these same problems press upon every educator trying to cope with the demands of a challenging job.

The specific workshop herein summarized dwelled upon a five step solution:

STEP 1: Develop objectives only for essential material

STEP 2: Write down these objectives in a format that is subject to continual revision

STEP 3: Assume that at least some students already know something about the career path in question

STEP 4: Make sure that student participation grows naturally out of staff efforts

STEP 5: Develop the curriculum in writing slowly but carefully in order to make sure that the conceptualization does not out-distance operational possibilities

This document does not offer any magic solution. However, for an educator interested in planning and organizing a specific career path, a one-page planning guide is provided. This one-page planning guide will simplify the paperwork and force the educator to stress essentials rather that get lost in minute details. Once the main organizational thrust has been clarified, the educator is able to zero in on necessary details in order to make the program fully operational.

Rather than dwell upon theoretical considerations, this document explains in very simple terms and with very specific examples how to fill in a one-page planning organizational chart in such a way as to increase quality while reducing cost.

TABLE OF CONTENTS

Page

INTRODUCTION----------1

FOUR AREAS OF HIGH PRIORITY----------1

1. TOO MUCH DATA----------1
2. TOO LITTLE SYSTEMATIZATION----------2
3. TOO LITTLE STUDENT PARTICIPATION----------2
4. SPECIFIC TIME CONSTRAINTS----------3

THE VIEWPOINT OF THE AUTHOR----------3

EXAMPLES OF TYPICAL TEACHER-CENTERED GOALS----------4

A FEW OF THE STEPS FROM TEACHER-CENTERED TO LEARNER-CENTERED---------5

STEP 1: Develop Objectives Only For What You Teach----------5
STEP 2: Write As You Think----------5
STEP 3: Assume That At Least Some Students Already Know Something About Allied Health Care----------7
STEP 4: Student Participation Will Grow----------8
STEP 5: Curriculum All Seems So Clear Until We Start Writing Out A Few Examples----------9

NINE MATRIX COMPONENTS (from KO to AR): KO, KE, KR, PO, PE, PR, AO, AE, and AR----------10

PRACTICAL APPLICATION----------11

CODING KEY----------11
THE TRAINING MATRIX (to be filled in)----------12
THE TRAINING MATRIX (filled in)----------13

CONCLUSION----------14

INTRODUCTION

FOUR AREAS OF HIGH PRIORITY

This article is addressed to allied health educators who are currently developing curriculum. Those readers who attain the objective of this article should be able to profit from the experiences recounted herein.

There are many reasons why curriculum writers in allied health need this help. Here are a few of them:

1. There is too much data.
2. There is too little systematization.
3. There is too little student participation in curriculum development.
4. Every allied health program has definite time constraints.

1. TOO MUCH DATA: It is possible for the curriculum writer in allied health to be drowned in a sea of information. Unfortunately, this abundance is polarized. Some of the material is too deep for the students in your classroom. Other material, equally abundant, is too shallow to develop a sense of relevance in your students.

It is possible for a curriculum writer to resemble a hard working laborer who gets nothing accomplished. This is the situation of the shovel holder who moves one shovel of dirt one foot to the left, another foot to the left, and then again two feet to the right. He seems busy enough, but he is not getting very much done. If all you do is rearrange curriculum information, you resemble this industrious looking but ineffective worker.

2. TOO LITTLE SYSTEMATIZATION: There are two certainties in teacher education: People tend to teach as they were taught and most people tend to take their own frame of reference for granted. In practice, this means that a person whose training was only in PN will teach from the practical nursing point of view. Someone whose clinical experience has only been in PN will teach from the practical nursing point of view.

On the other hand, a teacher who has the AA degree, the RN, the BS, or the MS would be expected to reflect her academic background and differing clinical experiences in the way she teaches.

In other words, instead of stressing casefinding, health counseling, health teaching, and practical nursing care, these teachers will inadvertantly find themselves teaching what they were taught or learned on the job rather than what should be expected of the practical nurse in today's hospital.

3. TOO LITTLE STUDENT PARTICIPATION: In today's school of practical nursing, it is quite normal to find teachers writing all the objectives, all the quizzes, and all the resources. This is the way things have been done.

Some teachers who have been exposed to behavioral objectives, performance objectives, criterion-referenced testing, and educational technology have made a significant change. They have taken their lesson plans and crossed off the word teacher and written in the word student.

This is not enough to change over from teacher-centered to student-centered. This changeover requires more than a literary editing of one's previous lesson plans. Similarily, in the area of methodology, the nursing educator must not presume that the lecture is the most effective teaching tool. This applies equally as well to mini-lectures given in a clinical setting.

4. SPECIFIC TIME CONSTRAINTS: Many health education programs are spelled out in terms of hours of classroom instruction. There is nothing the matter with this.

There is something the matter with the teacher who assumes that each student can learn everything there is to be learned in the same amount of time. Individual learning rates vary among different types of students. Even among the same type of student, there will be personal individual differences.

Much of the current theory about curriculum writing seems to boil down to one simple formula: "Forty hours of teaching requires one hundred forty hours of writing performance/behavioral objectives."

This above formula is not endorsed by the author of this article.

THE VIEWPOINT OF THE AUTHOR

The author of this article proposes the following viewpoint:

A. Any teacher who writes up any part of her lesson plan is thereby preparing herself to do a better job. A written objective, no matter how vague and teacher-centered it might be, is still a good place to begin. Putting one's thoughts in writing force precision and clarity, at least to oneself. Communicating even a vague statement of objectives to students is one way to begin to operationalize your objectives.

B. There is more to objective development than writing. Your objectives must be given to students and refined by them. This does not necessarily mean asking your students to write your objectives. Tell them what your objectives are, let them react, and watch what happens. If you keep your eyes open, you will spot many chances for improvement. You will become less teacher-centered.

EXAMPLES OF

TYPICAL TEACHER-CENTERED GOALS

The following objectives were written by teachers. Each teacher confirmed her conviction that the objective she wrote covered a significant portion of the nursing program. Each teacher certified orally that her objective meant something significant to her.

1. To tell my students about the child and pediatric nursing.
2. To make my students understand the practical nursing implications of these theories.
3. To demonstrate to my students the best way to do things. (I will show them how I do it.)
4. To give my students the right attitude.
5. To make my students use the proper information.
6. To show my students how to apply all the information and skills I have given them.
7. To make my students better persons, and thus automatically better nurses.
8. To give my students the opportunities I missed in training.

The objective of the following pages is not to criticize these objectives. After all, a written statement of teacher intention is a good way to help students learn. The intention is to show concrete changes that can be used by individual teachers.

A FEW OF THE STEPS

FROM TEACHER-CENTERED TO LEARNER-CENTERED

As a result of exposure to the above ideas and practices, teachers began to come up with guidelines of their own. Here are a few of them:

1. Develop objectives only for what you teach:
   a. Start with your current lesson plans and course outlines.
   b. Create your own definitions for these categories as you use them.

In practice, this meant that if a teacher's objective was "To tell my students about the child" and "To make my students understand," the teacher should present this objective to her students.

It was considered inadvisable to tell the teacher to edit literally the subject of the verb from the teacher to the student. More than editing of a manuscript was desired. It was felt that a teacher should improve her lessons by making them more learner-centered operationally.

Once this is done, the objective of the class will be "Learners will recognize concepts, skills, conditions, and circumstances applicable to the care of all children from birth to adolescence."

This is a knowledge objective stated in terms that make it learner-centered in writing and in practice.

2. Write as you think:
   a. This analyses and synthesizes your thoughts.
   b. At first, the teacher flounders in a sea of information. This constitutes her first year of teaching.

c. During the second year of teaching, the typical teacher makes an outline and follows a textbook with a great deal of information reduction. She teaches only the essentials.

d. In the third of teaching, one develops a set of values and priorities which serves as a basis for decision-making.

e. Once a teacher has gone through her entire course three times, she has developed an overall schema by which she can tie things together for herself and for her students. As a matter of fact, by this time, most teachers have become student-centered enough to learn from the students in their classroom. The students don't tell them what the objectives should be; the students tell them how these objectives can be most effectively achieved by the type of student in the classroom.

Let's take an example. The typical teacher will announce her objectives thus, "My objective is to demonstrate to my students the best way to do things," Similarily, she announces also her methodology by saying to herself, "I will show them how I do it."

Many teachers experience a surge of power when they talk about what they know and when they show off how well they can do things. After a while, these teachers begin to realize that their students can experience the same surge of success.

To make this operational, the experienced teacher begins to develop new objectives both in writing and in practice. For example, the classroom objective will become "The learner will care for the ill child through applying growth and developmental patterns of the normal child." This is a worthwhile performance objective.

Similarily, the student who has profited from participating in clinical care will be allowed to develop another objective. A typical example might be "The student will pinpoint in discussions concrete differences among classes of children and between individuals in the same class." This is a good example of knowledge evaluation that goes beyond mere paper and pencil testing.

Such knowledge evaluation should not be confused with performance evaluation. An example of a performance objective designed to measure the performance objective mentioned a few paragraphs above might be "The student will demonstrate to supervisors that safe nursing procedures have been used to accomplish the care required of an allied health worker."

3. Assume that at least some students already know something about allied health care:

a. Don't over-assume that they know too much.

b. Recall common experiences that both you and students have had of the medical world, such as television shows, visits to hospitals, and the like.

c. Find out what the students don't know and fill in the gaps. This is preferable to teaching them what you have always taught or simple what you have been taught yourself.

d. Go beyond what you've seen on the job or what you think the students can handle. Try to think of what they will be required to do on the job.

e. Slow learners learn at a slower pace, not at a lower level. This means that all students have similar objectives even though it may take some students longer to attain these objectives.

Many teachers start off with the following objectives: "To give students the right attitude" and "To make students use the proper information." These objectives can often be followed up with the overall teacher-centered objective phase in the following words, "To show students how to apply all the information and skills I have given them."

Such an attitude is not assuming enough about the student. Such an attitude might even be downgrading the average and above student. As a matter of record, it can downgrade the slower student who can achieve even though she requires more time.

In the area of attitude objectives, you must realize that many students are doing a good job of providing emotional support at home. This might logically lead to the following learning objective, "The students will render the necessary emotional and social support to institutionalized children and their families."

Don't try to come up with an attitude evaluation that relies heavily upon psychological and depth analysis.

A more appropriate attitude evaluation would be to watch what happens when "Students explain in simple layman terminology the need for appropriate care." An another good attitude evaluation might be to permit students to express how they "realize that every child is subject to growth and crises, some of which reflect painful moods."

4. Student participation will grow:

a. Students can't tell you all the objectives that must be learned in the course.

b. Students will typically start with pleasurable criteria. In other words, they will tell you what they like to learn.

c. Then, after they catch on, learners will move on to professional pride provided you allow them a chance to practice what they learn.

D. Teachers will similarily move from ease to effectiveness and standard approach in their teaching methodology. They will gradually switch over from what they learned to what the student will be expected to do on the job.

Let's apply the above principles to knowledge resources. Most teachers realize that the lecture method is a good way to summarize the reading experience. On the other hand, a good bibliography that cites specific text and page numbers will often do the learner more good provided she can read.

Again in the area of knowledge resources, it is not enough for the teacher to prepare teacher-filtered diagrams and information sheets. The students must "use teacher-filtered diagrams and information sheets" as guides through a vast sea of information.

There are other ways to learn. Performance resources provide a few examples.

Instead of merely watching the teacher perform before a group, students can "participate in clinical practice involving the care of well children and ill children."

Another performance resource would be to switch the emphasis from the teacher does to what the student does. Thus, an appropriate performance resource would be for learners to "attend such clinical practice in a wide variety of institutions and agenices."

5. Curriculum all seems so clear until we start writing out a few examples:

a. You must dig in with your pencil. Put something on paper. Look at it. Have your students look at it. Have your colleagues look at it.

b. Talk it over. Don't be afraid of criticism.

c. Revise it.

d. Ask questions about what you have written.

e. Get professional opinions.

The typical nursing educator is dedicated to her fellow man. She is willing to do things for others, not primarily for monetary reward, but for the satisfaction of helping them.

This explains typical teacher-centered objectives such as "To make my students better persons, and thus automatically better nurses" and "To give my students the opportunities I missed in training."

This can be interpreted in many ways: NINE MATRIX COMPONENTS (from KO to AR)

KO: Teachers want to make sure that their students get all the knowledge and information they didn't get in training. This might be too much stress on knowledge objectives.

KE: Teachers want to make sure that their students are given frequent quizzes and other forms of knowledge evaluation.

KR: Teachers, who put a vast amount of time in developing diagrams and information sheets to be handed out to their students, want to save them a large amount of time and writing in note taking. This is an example of a knowledge resource.

PO: Teachers, who were given too much theory and not enough practice, want to provide more clinical experience. This is an example of stressing care as a performance objective.

PE: Teachers, who were graded merely on their theoretical principles and not on their clinical techniques, want to make sure that their students demonstrate their newly acquired skills. This stresses performance evaluation.

PR: Teachers, who never had a chance to pick up clinical techniques before their first job, want to make sure that their students participate in clinical practice. This is an example of a performance resource.

AO: Teachers, who realize that nurses are human beings as well as experts and highly trained technicians, want to stress appropriate attitude objectives.

AE: Teachers, who want their students to find out about undesirable attitudes before they are exposed to a professional situation, are utilizing common sense techniques of attitude evaluation.

AR: Teachers, who are beginning to find out about such new ideas as community and family centered nursing, obviously will introduce modern concepts such as preventive medicine. This type of attitude resource helps the student develop enthusiasm and interest.

The preceding pages of this article have dealt with a number of topics.

If this article is not read carefully and systematically, you might make the following complaints about it:

1. There is too much data.
2. There is too little systematization.
3. There is too little reader participation.
4. There is a lot of writing in this article about things that could be said in fewer words.

Look at the following page which is indicated THE TRAINING MATRIX. This training matrix has been left blank.

This training matrix is coded. It is presumed that you the reader by carefully studying this blank page and the information at the top and side will interpret its signification. In addition, clues to the coding system have been sprinkled throughout the preceding pages.

Try to fill in this training matrix on your own. Use the following page if you wish to do so.

This will help you put together a number of practical nursing objectives in a format that can be contained on a single page.

CODING KEY

K is for KNOWLEDGE	O is for OBJECTIVE
P is for PERFORMANCE	E is for EVALUATION
A is for ATTITUDE	R is for RESOURCE

Thus, KO stands for KNOWLEDGE OBJECTIVE, PE stands for PERFORMANCE EVALUATION, AR stands for ATTITUDE RESOURCE, and so forth.

THE TRAINING MATRIX

(to be filled in)

	KNOWLEDGE (Information)	PERFORMANCE (Training)	ATTITUDE (Motivation)
OBJECTIVE (TARGETS)	KO	PO	AO
EVALUATION (TESTS)	KE	PE	AE
RESOURCES (TECHNOLOGY)	KR	PR	AR
	(Principles)	(Techniques)	(Human Relations)

TRAINING MATRIX
(filled in)

FRONT SHEET
BLOCK ——→ PEDIATRICS
OVERALL PERSPECTIVE

KO	PO	AO
Recognize concepts, skills, conditions, and circumstances applicable to the care of all children (from birth to adolescence)	Care for the ill child through applying growth and developmental patterns of the normal child	Render the necessary emotional and social support to institutionalized children and their families
KE	**PE**	**AE**
Pinpoint concrete differences among classes of children and between individuals in the same class Anticipate a wide array of behavioral patterns, many of which are stressful	Demonstrate to supervisor that safe nursing procedures have been used to accomplish the care	Explain in simple layman terminology the need for appropriate care Realize that every child is subject to growth and crises, some of which reflect painful moods
KR	**PR**	**AR**
Cite specific text and pages Use teacher-filtered diagrams and information sheets	Participate in clinical practice involving the care of well children and ill children Attend such clinical practice in a wide variety of institutions and agencies	Realize that nursing must be community and family centered, not merely in a hospital

CONCLUSION

Page 12 of this document has exposed the reader to the matrix whose coding is explained on page 11. Each of the nine matrix components is to be filled in with a corresponding part of the allied health curriculum.

Page 13 presents one example of how the matrix may be filled in by a teacher. The subject of each verb on page 13 is the student or learner. Thus, instead of proclaiming, "I, the teacher, will give the learner the proper attitude," the student-centered matrix specifies, "I, the learner, will render the necessary emotional and social support to institutionalized children and their families." This change is more than grammatical; it is the difference between making the learner a sponge that receives or a human being that grows and responds in a variety of ways.

These two pages, pages 12 and 13, provide a summary of the practical applications of this document.

Other documents are available that carry on this process with numerous practical examples.

SEVEN STEPS TO BETTER OBJECTIVES provides a step-by-step framework with which to develop learning objectives that appeal to a variety of learners in a clear and simple format designed for individualization.

WORK SESSION I : A TYPICAL SCENARIO provides the transcript of a typical matrix workshop work session. In dialogue format, the reader can visualize the step-by-step formation of a matrix by skillfully assembling questions and answers together into educational building blocks. Examples are provided of the typical work session, a matrix x-ray, the matrix two step, a beginning course matrix, a matrix livening up a highly technical presentation, a self-improvement matrix, a typical matrix x-ray result in the form of a raw score count, a typical matrix x-ray detailed result chart, and a sample objective correlated to the matrix.

WORK SESSION II : FROM LECTURE NOTES TO MATRIX provides the transcript of an advanced work session for educators previously exposed to the matrix. The pace is speeded up to emphasize subject matter as well as format. The examples of Work Session II are given in more technical detail. This technical detail includes learning resources keyed to such topics as knowledge resources, performance resources, and attitude resources. The results of Work Session II can readily be reassembled to MODULE format. Module format includes (a) objectives, (b) pretests, (c) learning environments, and (d) posttests in (1) individualized, (2) fail-safe, and (3) student-paced learning packages.

RECOMMENDED PUBLICATIONS

The following MICROFICHE in the ERIC collection and summarized in RESEARCH IN EDUCATION (RIE) are called to the attention of educators wishing to update staff and learning centers :

ERIC CODE	CONTENTS
ED 056-994	HOW TO CLARIFY INSTRUCTIONAL GOALS
ED 074-032	HOW TO INDIVIDUALIZE CLASSROOM INSTRUCTIONAL GOALS
ED 086-988	HOW TO KEEP EDUCATIONAL RESEARCH FROM GATHERING DUST ON A SHELF
ED 088-861	PLANNING AND IN-SERVICE EDUCATION
ED 085-354	CHECKLIST ON HOW TO TAKE A GOAL APART AND HOW TO PUT IT BACK TOGETHER IN AN INSTRUCTIONAL SYSTEM
ED 090-175	SEVEN STEPS TO BETTER OBJECTIVES
ED 090-227	ROLE OF THE RESPONSIBLE LEADER IN DEVELOPING TEACHER-PREPARED RESEARCH
ED 090-976	CISNE - COMPUTERIZED INFORMATION SYSTEM FOR NURSING EDUCATORS
ED	EVALUATING COOPERATIVE EDUCATION
ED	LEADERSHIP BY REINFORCEMENT
ED 092-595	AN EVALUATION SYSTEM THAT DOESN'T REQUIRE HYPER-EXPERTS

In addition to the above microfiche cited by number, interested readers are referred to other available documents that can be used as effective starting points.

The reader is recommended to study DEVELOPING CRITERION MEASURES FOR CAREER PATH MODULES. This document dwells upon the importance of measuring GAINS SCORES for all career path learners. Specific examples are given of overall testing instruments and specific answer keys with which to document countable learning results.

Another recommended document is DOCUMENTING OCCUPATIONAL EDUCATION MODULES THAT CAN ADD UP TO CAREERS. This document shows how to assemble objectives, diagnostic pretests, alternative learning environments, and mastery posttests into learning packages. These self-peced learning packages furnish a series of modules, each of which is a building block towards a specific career path.

The reader who has begun to investigate the above two documents will find a wealth of ideas both in the literature and in untapped local resources.